

REMARKS/ARGUMENTS

Claims 1-10 are pending in the application. Claims 1-3 and 5-7 are amended without prejudice hereby. Claims 11-26 are new. Claims 1-2 and 5-10 are rejected under 35 U.S.C. §102(e) over U.S. Patent No. 6,601,662 to Matthias ("Matthias"). Claims 3-4 are rejected over 35 U.S.C. §103 over Matthias. Applicant traverses and respectfully requests reconsideration and withdrawal of the rejections thereto.

Claims 1-2 and 5-10 are rejected under §102 over Matthias. Claim 1 recites: "[a] polycrystalline diamond abrasive element having an annular region adjacent the peripheral surface extending away from the working surface, the annular region or a portion thereof being lean in catalyzing material." New claim 11 recites a: "substantially annular region lean in catalyzing material adjacent the peripheral surface commencing at a peripheral edge of the working surface and extending away from the working surface." New claim 12 recites "a substantially annular region lean in catalyzing material adjacent the peripheral surface contiguous with the region and extending away from the working surface." Matthias fails to disclose the above-recited limitations.

Matthias defines a diamond matrix body in the form of a polycrystalline diamond element having a working surface where a portion of the interstitial matrix in the body adjacent a working surface is substantially free of catalyzing material and the remaining interstitial matrix contains the catalyzing material. Matthias teaches that catalyst material may be removed from the body by leaching.

In the embodiment depicted in FIGS. 19A/B, Matthias shows that the substantially catalyst-free region is in the form of a disc on the major face of the body and varies in depth across the diameter of the body. The embodiment depicted in FIGS. 20A/B includes a treated

(leached) region 80 and a partially leached region 84 in an otherwise unleached layer having an untreated (unleached) surface 82.

Accordingly, neither of these embodiments defines, either expressly or inherently, an annular (ring-shaped) region adjacent a peripheral surface of a polycrystalline diamond layer that is lean in catalyzing material, as recited in claim 1. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejections to claims 1, 2 and 5-10 under §102. For the same reasons, Applicant urges that new independent claims 11 and 19 and the claims ultimately dependent therefrom are also presently in condition for allowance.

Claims 3-4 are rejected over §103 over Matthias. At pages 3-4, the Office Action alleges: “[t]he specific depth ranges of the lean region or annular region extending from working surface is considered an obvious design option judging the fact that the annular region shown in Figs. 19B-22B all show the lean regions or the annular regions having variable depths ranging from minimal to the maximum depth of the abrasive layers.” Applicant respectfully disagrees.

First, the Office Action cites no evidence nor even takes any Official Notice in support of the assertion that the specific depth ranges of the lean region or annular region extending from working surface are an obvious design option. Nor has the Office Action made any of the factual inquiries required by *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966) required for a *prima facie* case of obviousness to support this assertion. See *KSR International Co. v. Teleflex Inc.*, 550 U.S. ___, 82 USPQ2d 1385 (2007); MPEP § 2141. Thus the Office Action fails to make a *prima facie* use supporting the §103 rejection.

Nonetheless, in order to advance prosecution, Applicant notes the following. With respect to claims 3 and 4, Applicant respectfully disagrees that the limitations set forth in each of these claims are a matter of design option. First, as noted above, the disclosure of Matthias as

relied upon by the Office Action is devoid of the claimed annular region, wherein the annular region, or a portion thereof, is lean in catalyzing material. Therefore, the further limitations as to a depth of the annular region or portion thereof lean in catalyzing material as set forth in claim 3 cannot be a mere design option.

Further, the extent of the annular region from the working surface towards the interface of the polycrystalline diamond layer and the substrate as recited in claim 4 cannot, again, be a matter of design option in light of the above-enumerated deficiencies of the relied-upon disclosure of the Matthias. In short, none of the claimed elements of each of claims 3 and 4 is present in the reference, nor is there an objective reason set forth in the Office Action as to why it would be obvious to incorporate such elements in the structure as claimed.

By way of contrast, in one non-limiting embodiment in the present application, as illustrated in FIG. 1, there is defined a catalyst-lean volume effectively comprising two regions, one of which comprises an annular region extending down the peripheral surface of the layer towards the interface with the substrate. As illustrated in FIG. 1, these two regions may be contiguous, and form a cap-like, catalyst-lean volume extending over the polycrystalline diamond layer. Stated another way, as illustrated in FIG. 1, there are two regions of catalyst-lean polycrystalline diamond around a central portion of catalyst-rich polycrystalline diamond such that a leading edge and a catalyst-lean diamond with a catalyst-rich area of diamond therebetween. Neither this structure, nor the result thereof from use of the polycrystalline diamond element, appears to be disclosed in the relied-upon portions of Matthias.

Thus, for the reasons given above, Matthias fails to disclose or render obvious the claims 3 or 4, and thus respectfully request reconsideration and withdrawal of the rejections thereto.

Applicant respectfully submits that claims 1-10 are presently in condition for allowance and urges reconsideration and withdrawal of the rejections thereto.

CONCLUSION

In view of the foregoing amendments and remarks, all of the claims in this application are patentable over the prior art, and early and favorable consideration thereof is solicited.

Please charge any fees incurred by reason of this response and not paid herewith to Deposit Account No. 50-0320.

If any issues remain, or if the Examiner has any further suggestions, the Examiner is invited to call the undersigned at the telephone number provided below. The Examiner's consideration of this matter is gratefully acknowledged.

Respectfully submitted,

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